

ABSTRACT

A particle-dispersed complex which can serve as a very active electrochemical catalyst used as the sensor electrode of a solid electrolyte sensor such as an oxygen sensor and an exhaust gas sensor that are sensitive even at low temperature, or as the electrode or the like of an electrochemical device or the like such as an electrolysis or a battery or the like by dispersing without aggregating ruthenium system fine particles having a very small particle size into a carbon matrix phase to keep ruthenium system fine particles in a high catalyst active state. The particle-dispersed complex is characterized by comprising fine particles that have a particles size of 5-100 nm, contain ruthenium element as a constituent element, and are dispersed in a matrix mainly containing carbon, and by having conductivity.